

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. **(Withdrawn-Currently Amended)** A process for the preparation of a functionalised porous material comprising the steps of:

(i) sintering polymer components to provide a porous substrate; and
(ii) grafting, using plasma polymerization, a molecularly imprinted polymer synthesized *in situ* using plasma polymerization onto the porous substrate to provide the functionalised porous material ~~a chemical species selected from~~

~~(a) a molecularly imprinted polymer; and~~

~~(b) a functionalised moiety~~

~~onto the porous substrate to provide the functionalised porous material;~~
~~wherein when the polymer components are a polymer powder and the chemical species is a functionalised moiety, the chemical species is grafted using pulsed plasma polymerisation.~~

2. **(Withdrawn)** A process according to claim 1 wherein the polymer components are polyolefin components.

3. **(Withdrawn-Currently Amended)** A process according to claim [[1 or]] 2 wherein the polymer components are polyethylene components.

4. **(Withdrawn-Currently Amended)** A process according to claim 1 ~~any one of claims 1 to 3~~ wherein the polymer components are a polymer powder.

5. **(Withdrawn-Currently Amended)** A process according to claim 1 ~~any one of the preceding claims~~ wherein the polymer components are sintered in a mould.

6. **(Withdrawn-Currently Amended)** A process according to claim 1 ~~any one of claims 1 to 4~~ wherein the polymer components are sintered in the form of a sheet.

7. **(Withdrawn-Currently Amended)** A process according to claim 1 ~~any one of claims 1 to 3~~ wherein the polymer components are polymer fibres.

8. **(Withdrawn-Currently Amended)** A process according to claim 1 ~~any one of the preceding claims~~ wherein the molecularly imprinted polymer is capable of interacting with a species selected from the group consisting of a metal ion, a toxin, a pharmaceutical compound and a microbial organism.

9. **(Withdrawn-Currently Amended)** A process according to claim 1 ~~any one of the preceding claims~~ wherein the molecularly imprinted polymer is capable of immobilising a species selected from the group consisting of a metal ion, a toxin, a pharmaceutical compound and a microbial organism.

Claims 10-15. **(Cancelled)**

16. **(Withdrawn-Currently Amended)** A process according to claim 1 ~~any one of the preceding claims~~ wherein the chemical species is grafted using plasma polymerisation.

Claims 17-19. **(Cancelled)**

20. **(Withdrawn-Currently Amended)** A process according to claim 1 ~~any one of the preceding claims~~ wherein the porous substrate comprises a body having an external surface and pores extending from the external surface into the body, wherein the pores define an internal surface and wherein the chemical species is grafted onto the external surface and onto the internal surface of the porous substrate.

21. **(Withdrawn)** A process according to claim 20 wherein the chemical species is grafted substantially uniformly throughout the porous substrate.

22. **(Withdrawn-Currently Amended)** A process according to claim 20 [[or 21]] wherein the number of grafted chemical species per unit area on the external surface is approximately equal to the number of grafted chemical species per unit area on the internal surface.

Claims 23-24. **(Cancelled)**

25. **(Currently Amended)** A functionalised porous material comprising:

(i) a porous substrate comprising a body having an external surface and pores extending from the external surface into the body, wherein the pores define an internal surface; and

(ii) a molecularly imprinted polymer synthesized *in situ* using plasma polymerization; wherein the molecularly imprinted polymer is attached to the external surface and/or the molecularly imprinted polymer is attached to the internal surface of the porous substrate; and the molecularly imprinted polymer is grafted onto the porous substrate using plasma polymerization.

26. **(Previously Presented)** A functionalised porous material according to claim 25, wherein the molecularly imprinted polymer is attached to the external surface and the internal surface of the porous substrate.

Claims 27-28. **(Cancelled)**

29. **(Currently Amended)** A functionalised porous material according to claim [[27]] 25 wherein the molecularly imprinted polymer is synthesised using pulsed plasma polymerisation.

Claims 30-31. **(Cancelled)**

32. **(Currently Amended)** A functionalised porous material according to claim 25 [[30]] wherein the molecularly imprinted polymer is grafted using pulsed plasma polymerisation.

33. **(Previously Presented)** A functionalised porous material according to claim 25 wherein the molecularly imprinted polymer is capable of interacting with a species selected from the group consisting of a metal ion, a toxin, a pharmaceutical compound, or a microbial organism.

34. **(Previously Presented)** A functionalised porous material according to claim 25 wherein the molecularly imprinted polymer is capable of immobilising a species selected from the group consisting of a metal ion, a toxin, a pharmaceutical compound, or a microbial organism.

35. **(Previously Presented)** A functionalised porous material according to claim 33 or 34 wherein the species is a microbial organism.

36. **(Previously Presented)** A functionalised porous material according to claim 25 comprising an RF tag.

Claims 37-38. **(Cancelled)**

39. **(Currently Amended)** A functionalised porous material according to ~~claims 37 or 38~~ claim 25 wherein the internal surface area is high.

40. **(Currently Amended)** A functionalised porous material according to ~~claim 38~~ claim 25 wherein the internal surface area is low.

41. **(Previously Presented)** A functionalised porous material according to claim 25 wherein the functionalised porous material is in the shape of a cylinder or a rectangular prism.

Claims 42-43. **(Cancelled)**

44. **(New)** A functionalized porous material according to claim 25, wherein the void volume is about 1 % to about 90 %.